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# INTELLIGENT ENTERTAINMENT VIA “OVER ME CAP”

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## INTELLIGENT ENTERTAINMENT VIA "OVER ME CAP"

### Technical task:

Currently, there are Multi Media Interface Systems (MMI) which enable an entertainment and infotainment function for the passenger compartment.

### Initial situation:

Especially in connection with automated driving, entertainment and infotainment functions are becoming more and more relevant.

A disadvantage of the current systems is that the entertainment functions are generally only available to a limited extent.

### Solution:

The aim of the patent idea is to ensure an "intelligent, contact-free, head-controlled, position and situation-dependent data flow with regard to entertainment / information" in the form of a "sun-cap / over me cap" by means of an intelligent control device on the head restraints and/or in the headliner, for example by means of the data of an MMI.

More precisely, it is an eye-catching and ear-close functionality to reach the senses of the persons in the vehicle personified even more emotionally as it is currently generated with the MMI. The task is solved with an over me cap in the form of a "helmet/cap design" which brings the image and sound even closer to the perception organs - eye/ear - of the person.

The transparent LCD screen technology can be integrated in a special version in a visor of the "over me cap" and significantly increase the visualization in the 3D effect. The visualized image follows the gaze of the eyes.

The near-ear sound emphasizes this effect and the persons in the passenger compartment can independently select different focal points, i.e. preferences, inclinations of the entertainment.

The signal path for the control and processing of the associated audio/video data is in the order shown below:

A first interior camera monitors the line of vision/position of the driver's eyes and head, i.e. it detects the alignment of the head to certain objects such as a mountain, a bridge, a monument, POI in general.

At the same time, a "sun-cap" integrated in the headrest or an "over me cap" integrated in the headlining is controlled in such a way that an image and an image description are automatically generated, depending on the menu individually selected by the person in a setup.

The image/sound guidance, i.e. the guidefunction, moves with the head orientation and the wish articulated by the person, i.e. the personalized question.

The interior camera senses the head movement and controls simultaneously, i.e. following the line of sight, an image that lies in the eye alignment / sight of the person. An interface to the GPS system provides a suitable offer regarding POI information that can be consumed in person. A speech dialog system with personalized setup menu "Focal points/Inclinations" takes over the guidefunction.

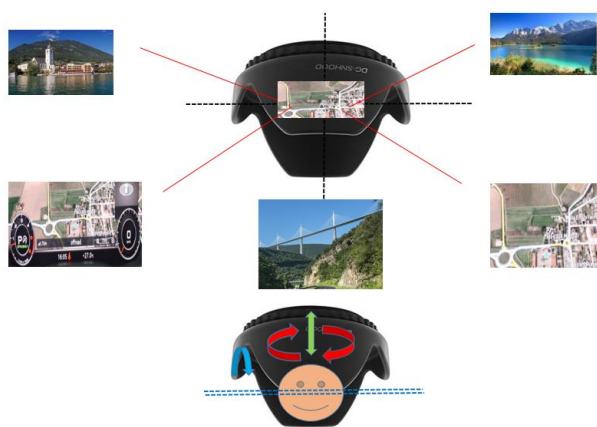
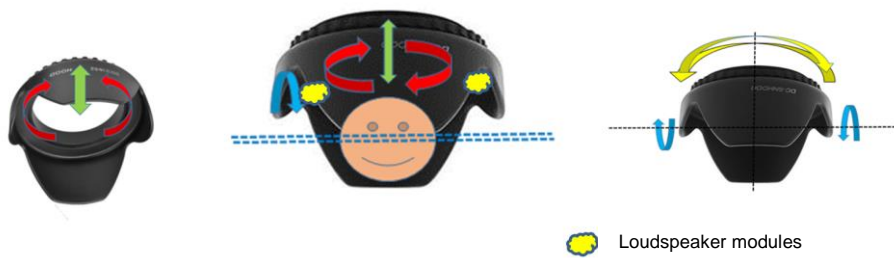


Figure 1



----- Swivel axis of the sun cap/over me cap module on the headrest

Figure 2



**Figure 3**

Examples of interior camera-controlled adjustment options

A "spherical swivel/rotary system offers all degrees of freedom in space, i.e.:

- Adjustment in z-direction
- Rotation around y-axis
- Rotation around z-axis
- Inclination around z-axis

**Perspektive A**

Front view in opposite direction of travel



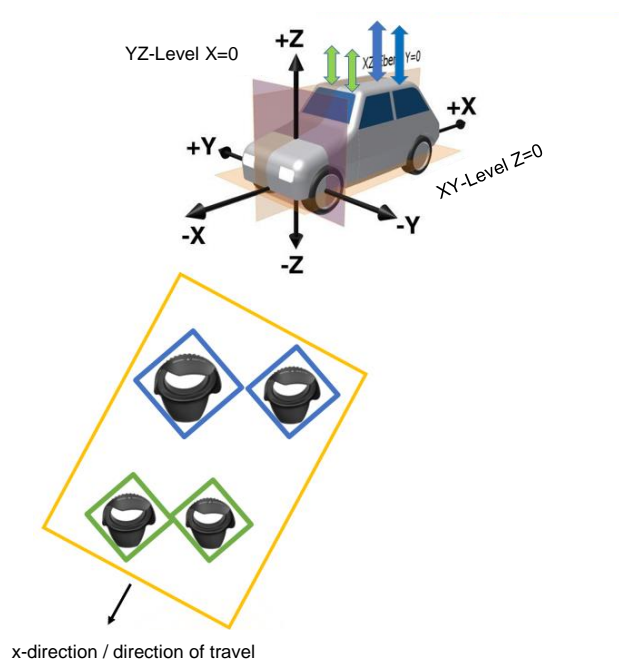
**Perspektive B**

View in direction of travel / viewing direction roof lining

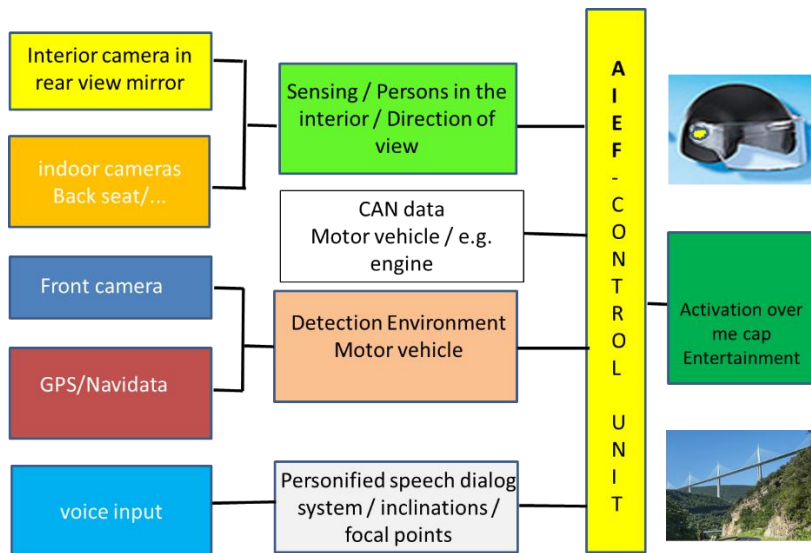


**Figure 4**

Exemplary positioning



**Figure 5**



**Figure 6**

**Advantages:**

- personalised entertainment interface in the form of the "over me cap" enables an individual entertainment offer for every person in the interior
- Fusion between reality and virtual entertainment components enables a high entertainment factor